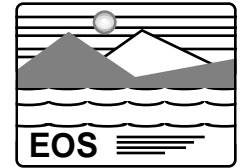




EOS AM-1 Mission Operations Review

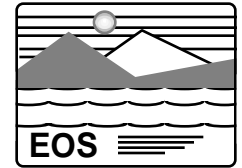


ECS (SDPS/CSMS) REPLAN

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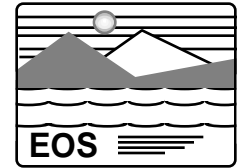
ECS (SDPS/CSMS) Replan



- **Replanning details provided here are work in progress - NOT final decisions**
- **Replanning process includes detailed review and feedback from Stakeholders (DAACs, Instrument Teams, Flight Projects, User Community)**



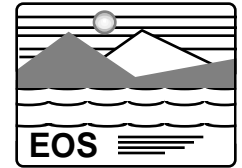
Executive Summary



- **Serious delay in ECS Science Data Processing Segment**
 - TRMM Release (Release A) delayed by 5 months.
 - AM-1 schedule being worked. Replan to be completed for center review by mid-December.
- **TRMM and AM-1 releases will be developed in multiple phases to provide essential functions at launch.**
 - Strawman set of system capabilities by phase developed for each release
- **Project has initiated discussions with Instrument Teams, DAACs, and Flight Projects**
- **Requesting SEC and EOSDIS Panel guidance on involving representatives of science data user community (i.e., in addition to data producing investigators) in prioritization process**



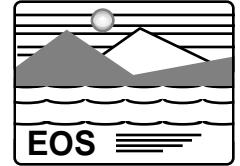
Current Situation



- **ECS Science Data Processing Segment is currently projected to slip:**
 - From December '96 to May '97 for Release A (TRMM)
 - Impact on AM-1/Landsat-7 Release B being analyzed. Project Replan to be completed by Mid-December.
 - Process established to involve “stakeholders” (DAACs, Instrument Teams, Flight Projects, User Community) in replanning process. (DAACs and TRMM Project have been involved in initial replanning; periodic status updates have been provided to DAACs, ITs and EOSDIS Panel Chairman)
 - Priority is being placed on mission critical and essential functions to avoid impact to launch schedules. “Strawman” prioritization and mapping of functions into these categories has been completed.



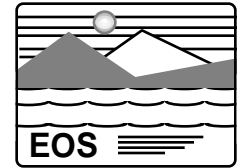
Current Situation (Cont'd)



- **FOS and EDOS are on schedule to provide AM-1 mission operations, including spacecraft operations, data capture, and Level 0 processing and distribution**
- **Replanning assumes continued support of MTPE launch schedules**
 - **Discussion with stakeholders needed to validate/modify list of functions critical/essential at launch (Presentations at science meetings and “one-on-one” discussions are part of this process)**



ECS Replan Approach

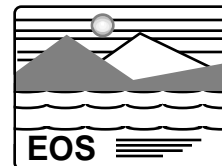


- **Initial delivery (Release A) will support TRMM and early AM-1/Landsat-7 testing**
 - Mission critical/essential functions to be integrated first
- **Upgrades to support AM-1 (Release B), e.g.,**
 - Data types and expanded capacity, and spatial data management functions will be performed on parallel hardware strings to avoid impact to TRMM operations
 - » Some hardware designated for NSIDC and JPL DAACs could be delayed - could initially be deployed at GSFC and LaRC to provide parallel hardware
 - » Working options with MODIS and NSIDC
- **Working with JPL to define minimum essential capability required to support SeaWinds testing**
- **Evaluating performing science software integration and test at EDC using GSFC Data Server remotely**



Release B Phasing

Preliminary

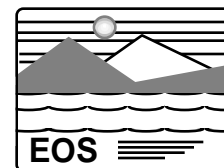


- **Release B Approach**
 - Deliver incrementally as B.0 and B.1 to assure that essential functions are completed first
 - Mapping of functions by delivery phase to be determined after validation by science community and DAACs
- **Assumptions:**
 - NO CHANGES IN LAUNCH DATES
 - Release A capabilities must continue to be supported in B.0
 - AM-1/Landsat-7 launch critical items must be in B.0
- **AM-1 Launch ready Release (Release B.0) will provide essential functions needed to:**
 - Continue TRMM support provided by Release A
 - Ensure that AM-1 and Landsat-7 data are acquired and available for future use
 - Provide sufficient production capability for higher level products to support early post-launch instrument operations and analysis



Release B Phasing (Cont'd)

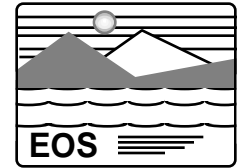
Preliminary



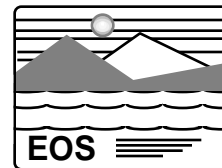
- **B.0 capabilities to include required AM-1 mission/science operations functions:**
 - **Spacecraft and instrument operations**
 - **Capture data (including ASTER Data Acquisition Requests)**
 - **Ingest at the assigned DAACs all instrument Level 0 or equivalent data (including ASTER Levels 1A and IB, Landsat 7 Level 0R, and ancillary data) for which EOSDIS is the primary archive**
 - **Backup ancillary data for which EOSDIS is the primary archive**
 - **Process, archive, and distribute higher level products with some limitations on scheduler capacity and inter-DAAC products**
- **Workarounds to be provided where needed, but with capacity limitations**



Issues Identified to Date



- Candidate B.1 functions/B.0 impacts
 - Automated inter-DAAC planning to support production processing
 - » Is manual operation for limited data volume acceptable?
 - Full production scheduling capability
 - » Will phasing in of algorithms as they mature delay need for full number of product generation executions?
 - » What impact will post-launch checkout period have?
 - Subsetting to support production across DAACs
 - » Are workarounds possible for specific products?
 - On-demand processing
 - » Is manual operation (i.e., not automatic through client) acceptable in short term?
 - Media distribution capacity
 - » Need to determine volume that can be supported
- Above workaround options are being considered vs. feasibility of providing capability in B.0

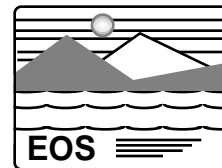


Back-up



Release B Phasing

Examples of Function Mapping



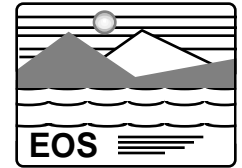
B.0 Capabilities:

1. Spacecraft and instrument operations
2. Capture data - Full capability (including ASTER Data Acquisition Requests)
3. Ingest at the assigned DAACs all instrument Level 0 or equivalent data (ASTER Levels 1A and 1B, Landsat 7 Level 0R, and ancillary data) for which EOSDIS is the primary archive
4. Backup all data identified in item 3 required to produce EOS standard data products
5. Catalog data such that they can be located
6. Support retrieval of data specified in #3
 - 6.1 by Instrument Teams (ITs)
 - 6.2 by all users according to the EOSDIS data access/distribution policy
 - 6.3 Support ability to determine status of orders for data
7. Support DAAC operations (run Product Generation Executives: PGEs - software modules that produce standard products) for pre- and post-launch testing (including support for Quality Assessment) for the case of instruments not using data from other instruments; includes on-demand processing for ASTER



Release B Phasing

Examples of Function Mapping (Cont'd)

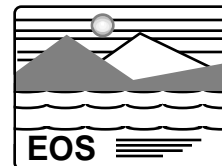


B.0 Capabilities (Cont'd):

8. Support retrieval by Instrument Team (IT) users of test data generated in item 7
9. Support DAAC operations for pre- and post-launch testing using data from other instruments
 - 9.1 Local DAAC data from other instruments
 - 9.2 Unsubsampled data from other DAACs
10. Support retrieval by Instrument Team (IT) users of test data identified in item 9
 - 10.1 Electronically
 - 10.2 Via media
11. Support partial production planning and processing using data from a local DAAC, or a given instrument's antecedent (lower level) products from another DAAC. ("partial" means a limitation on total amount of processing; this is to be used at IT's discretion)
12. Support unsubsampled data retrieval by all users from any DAAC (with one-stop shopping capabilities of Release A)



Release B Phasing Examples of Function Mapping (Cont'd)



B.1 (Fully Operational Release B:

13. Support partial production processing using unsubsetted data from another DAAC

13.1 Electronically

13.2 Via media

14. Support subsetted data retrieval by all users

15. Support production planning and processing - full

15.1 Run PGEs in production mode using data from local DAAC

15.2 Run PGEs in production mode using data from another DAAC

16. Enhance data retrieval tools

16.1 Coincident search (using metadata only)

16.2 Advertising Service (for data discovery)

17. Support reuse of ECS components by other providers